



# Illinois Department of Transportation

## Memorandum

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To: DIRECTORS, DEPUTY DIRECTORS, AND BUREAU CHIEFS  
From: Dianna L. Taylor  
Bureau Chief of Personnel Management  
Subject: Technical Vacancy  
Date: September 23, 2015

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Attached are the Position Summary Sheet and Position Description for the vacant technical position listed below. Please post this vacancy announcement September 24, 2015 in the designated areas.

The deadline for applicants to submit their names for consideration is **4:30 p.m.** on **Wednesday, October 7, 2015**. Applicants will not be accepted after that time and date.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position.**

All applicants will receive a position description for the position they are applying for. If you have any questions, please contact Halie Zulauf or Denise Hamilton at 217/782-5594.

CE IV      Pavement Management & Analysis Engineer  
Materials & Physical Research  
Highways  
Springfield

Attachments  
40472

Technical Applications (PM 1080) **must be received** by the Bureau of Personnel Management, Room 113, 2300 South Dirksen Parkway, Springfield, IL 62764 (Fax# 217/557-3134) by **Wednesday, October 7, 2015, 4:30 p.m.** Please include address, daytime phone and position for which applying if not already listed on application. Applicants will be notified in writing to schedule interviews.

**NOTE: A copy of each applicant's ACTIVE Illinois Professional Engineer License must accompany application for this position.**



**Illinois Department  
of Transportation**

An Equal Opportunity Employer

## Position Summary Sheet

**Classification:** Civil Engineer IV

**Salary Range:** \$5,800 - \$9,230

**Position Title:** Pavement Management & Analysis Engineer

**Union Position:** ☒ Yes ☐ No

**Position Number:** PW114-23-50-703-55-01

**IPR#:** 40472

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### Office/Central Bureau/District/Work Address:

Division of Highways/Bureau of Materials & Physical Research/126 E. Ash St., Springfield, IL

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### Description Of Duties:

This position is accountable for directing, planning and conducting studies dealing with the analysis of pavement performance data and for making recommendations to improve rehabilitation and pavement design details.

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### Special Qualifications:

#### *The following criteria is required:*

- A valid Illinois Professional Engineer license
- Occasional in-state travel with overnight stays and limited out-of-state travel

#### *The following criteria is desired:*

- Six years' experience in civil engineering including four years of supervisory responsibility of which three years should be in civil/transportation engineering or related field
- A master's degree in civil engineering with an emphasis on pavement design and/or transportation materials
- A minimum of one semester of Pavement Design Theory
- Strong oral and written communication skills
- Good organizational, leadership and self-motivational skills and the ability to maintain cooperative relationships

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### Shift/Remarks:

8:00 am - 4:30 pm / Monday - Friday

**ILLINOIS DEPARTMENT OF TRANSPORTATION  
POSITION DESCRIPTION**

<b>DATE:</b>	9/23/2014	<b>POSITION:</b>	Pavement Management & Analysis Engineer
<b>APPROVED BY:</b>	<u>Laura Mlacnik</u>	<b>OFFICE/DIVISION:</b>	Division of Highway/Bureau of Materials & Physical Research
<b>CODE:</b>	PW114-23-50-703-55-01	<b>REPORTS TO:</b>	Pavement Design Engineer

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**Position Purpose**

This position is accountable for directing, planning and conducting studies dealing with the analysis of pavement performance data and for making recommendations to improve rehabilitation and pavement design details.

**Dimensions**

Personnel Supervised:	1-6 direct
Programs:	10-25 site evaluations 5,000 – 6,000 miles structural quality data annually 2-5 formal studies

**Nature and Scope**

This position reports to the Pavement Design Engineer as does the Surface Properties Engineer. Reporting directly to this position are the Structural Properties Investigations Engineer(s), Design Investigation Engineer(s), Research Engineer, and Research Engineer Trainee.

The incumbent plans, organizes and directs formal research studies and special investigations of the pavement system. Data collection may be from structural evaluations conducted by the subunit or from historical pavement performance. Structural properties include distress, loading, pavement thickness, serviceability and deflection. The incumbent monitors Illinois' pavement performance using the Illinois Roadway Information System (IRIS) and Illinois Pavement Feedback System (IPFS). The incumbent is also responsible for reduction of data and the maintenance of Illinois' highways scheduled for rehabilitation through the use of falling weight deflectometer (FWD) testing and pavement performance surveys, analyzes nondestructive test data, and develops recommendations for improvements. The incumbent also analyze the economic impacts of truck axle weight law changes. This position is unique in that it houses the Department's expert on technical evaluations of the structural capacity of pavements and is the source of recommendations for improvements. The incumbent is involved with detailed investigations, which include the pavement structure or historical performance of pavements.

The incumbent supplies the engineering expertise required to solve problems unique to pavement structure and condition characteristics. A typical problem for the incumbent would be to evaluate individual pavement design details or components by use of historical data from IRIS or IPFS. In other cases, FWD testing along with performance surveys would be used to make recommendations. The greatest challenge to the incumbent is to generate and distribute accurate research analyses and recommendations in a format to ensure proper implementation of rehabilitation techniques.

The incumbent personally plans, directs and conducts special investigations, prepares highly technical written reports, prepares and reviews detailed work plans, reviews and edits research reports, prepares and reviews materials specifications and design changes, and makes recommendations to the Standing Committee on Pavement Management. The incumbent must have an understanding of hot-mix-asphalt and Portland Cement Concrete Pavement design and performance of design features. The incumbent consults with district and

central bureau project engineers on pavement design, construction and maintenance, relative to pavement structural properties and gives expert technical advice and recommendations for corrective action. The incumbent also evaluates highly technical roadway evaluations equipment and makes recommendations for purchase and/or development to upper level management.

The incumbent accountabilities are accomplished through the following staff:

Structural Properties Investigation Engineer, who coordinates detailed work plan development, management and report preparation for studies and special investigations of pavement structural properties; reviews in-house and other agency research efforts; and develops recommendations concerning the feasibility of adapting new pavement technology to Illinois policies, practices and specifications.

Design Investigations Engineer, who monitors pavement performance; reports performance data to the incumbent's supervisor; and analyzes reports of pavement performance conducted by outside agencies.

Research Engineer whose duties include conducting and reporting results of pavement performance investigations and reviewing reports of pavement performance research conducted by other agencies.

Research Engineer Trainee, whose duties include assisting with field surveys/testing for special investigations; collecting, analyzing and summarizing data; and assisting in the review of research reports from other agencies.

The incumbent has broad freedom to operate and is given wide latitude in the planning and accomplishment of assigned work. The individual plans, organizes and supervises the work of the staff, evaluates progress and results of testing, and recommends changes to achieve objectives. The incumbent consults with the Pavement Design Engineer to resolve complex issues, to determine appropriate action on controversial problems and to resolve serious research scheduling conflicts.

The incumbent has frequent contact with various levels within the Districts, Central Bureaus and the Office of Planning and Programming to determine field-testing program needs. Frequent contact is required with other state transportation Departments, local governmental agencies, the Central Bureau, the FHWA, representatives of private industry, research institutions, and University representatives to discuss instrumentation development and new technology. Occasional overnight travel throughout the state is required to evaluate data collection efforts, personally operate the test equipment or collect data as manpower availability dictates, analyze roadway conditions, develop new methodologies, and to conduct short term research studies. Limited out-of-state travel is required to participate in equipment correlation/calibration sessions and to attend conferences and workshops.

The effectiveness of the incumbent in this position is measured by the success of recommended solutions to unique pavement problem, by the value of information provided for pavement management activities, and by the success of the Department's rehabilitation techniques.

### ***Principal Accountabilities***

1. Provides advice on pavement rehabilitation efforts relative to structural characteristics for the highway network.
2. Investigates existing problems associated with specific pavement structural characteristics to determine the causes and recommend corrective action.
3. Plan and direct research studies aimed at improving performance of Hot-mix Asphalt and Portland Cement Concrete pavements.

4. Prepare technical papers to document finding of investigations related to structural and historical pavement performance.
5. Develop testing requirements to support the pavement management needs of the Department in regards to structural properties.
6. Trains, motivates and evaluates subordinate personnel to ensure efficient operations.
7. Travel on an as-needed basis to perform the duties of this position.
8. Perform duties in compliance with Departmental safety rules. Perform all duties in a manner conducive to the fair and equitable treatment of all employees.
9. Perform other duties as assigned.